

REMARKS/ARGUMENTS

The present Amendment is responsive to the non-final Office Action mailed January 7, 2009 in the above-identified application.

New claims 11 and 12 are added. Therefore, claims 1-12 are the claims currently pending in the present application.

Claims 1-3, 7 and 10 are amended to clarify features recited thereby. Further, claim 6 is amended to conform it more closely to U.S. style. These amendments are fully supported by applicant's disclosure.

Applicant thanks the Examiner for acknowledging the claim for foreign priority and the receipt of the priority document. Further, applicant thanks the Examiner for acknowledging in the previous Office Action the references cited in the Information Disclosure Statement filed on September 28, 2006.

Rejection of Claims 1-7, 9 and 10 under 35 U.S.C. §103

Claims 1-7, 9 and 10 are rejected under 35 U.S.C. §103 as being obvious from Schonfeld et al., U.S. Patent No. 5,607,010 in view of Aupperle et al., U.S. Patent Publication No. 2004/0050374. Reconsideration of this rejection is respectfully requested.

Without intending to limit the scope of the claims, according to an aspect of applicant's invention as claimed in claim 1, exhaust gases can be brought to a temperature corresponding to that of the compressed air being supplied through the inlet line because, as taught, for example, at applicant's disclosure, page 7, lines 19-25, the exhaust gases from the return line are mixed with the compressed air and then cooled together in the charge cooler 12 by ambient air as a cooling medium. Accordingly, engine performance is improved because recirculated exhaust gases can be more effectively cooled.

Claim 1 requires an arrangement for recirculation of exhaust gases comprising a liquid-medium cooler operable to cool the exhaust gases in the return line by use of a liquid medium, and an air cooler cooled by ambient air, the air cooler incorporated in the inlet line downstream from the connection of the return line to the inlet line so that, when the exhaust gases are returned via the return line, the air cooler cools a mixture of the exhaust gases and the first air.

Schonfeld discloses an arrangement for cooling diesel engine exhaust gases and an exhaust gas recirculation system (Schonfeld, Abstract) using a plurality of heat exchangers (12,

13), each designed to cool the exhaust gases to a predetermined temperature (Schonfeld, column 3, lines 29-52). The Office Action acknowledges that Schonfeld does not disclose an air cooler cooled by ambient air, however the Office Action alleges that Aupperle discloses such a cooler, citing Aupperle, paragraph 17.

Aupperle discloses an exhaust gas recirculation system for an internal combustion engine in which an exhaust gas recirculation line 4 includes a first EGR cooler 4.1 and a second EGR cooler 4.2 which may be designed as gas or liquid cooled coolers (Aupperle, page 2, paragraph 17). Aupperle discloses a separate air inlet system 3 with a charge air cooler 3.3 and a charge air compressor 3.1 that supplies air to the air inlet system 3 and is driven by an exhaust gas turbine 2.3 which serves as a motor for the charge air compressor 3.1 (Aupperle, page 1, paragraph 14).

Aupperle does not disclose or suggest a cooler as part of the inlet line and downstream from the connection of the return line to the inlet line for cooling a mixture of the exhaust gases returned via the return line and the first air, as required by claim 1. Further, Aupperle does not disclose or suggest that such a cooler is cooled by ambient air, as further required by claim 1. Accordingly, even taken together in combination, Aupperle and Schonfeld do not disclose or suggest the recitations of claim 1.

Claims 2-7, 9 and 10 depend from claim 1 and are therefore patentably distinguishable over the cited art for at least the same reasons.

Rejection of Claim 8 under 35 U.S.C. §103

Claim 8 is rejected under 35 U.S.C. §103 as being obvious from Schonfeld and Aupperle in view of Bailey, U.S. Patent No. 6,003,315. Reconsideration of this rejection is respectfully requested.

Bailey discloses an EGR cooler 38 for cooling exhaust gases supplied by a venturi 52 to the intake manifold 14 of engine 12 (Bailey, column 4, lines 22-57). Bailey further discloses a turbo charger 18 with an intake air compressor 24 that supplies intake air to an air-to-air after cooler 20 that cools the compressed air and supplies it via the venturi 52 to the engine (Bailey, column 6, lines 22-31).

Bailey does not disclose or suggest an air cooler incorporated in the inlet line downstream from the connection of the return line to the inlet line so that when the exhaust gases are returned via the return line, the air cooler cools a mixture of the exhaust gases and the first air, as required

by claim 1. Thus, Bailey does not cure the above-discussed deficiencies of Schonfeld and Aupperle as they relate to the above-cited features of claim 1. Since claim 8 depends from claim 1, it is patentably distinguishable over the cited art for at least the same reasons.

New Claims

New claims 11 and 12 are added so as more fully to claim patentable aspects of applicant's invention. New claims 11 and 12 are fully supported by applicant's disclosure, see, for example, Fig. 2 showing the parallel position of the coolers.


Claims 11 and 12 depend from claim 1 and are therefore patentably distinguishable over the cited art for at least the same reasons.

In view of the foregoing discussion withdrawal of the rejections and allowance of the claims of the application are respectfully submitted.

Respectfully submitted,

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